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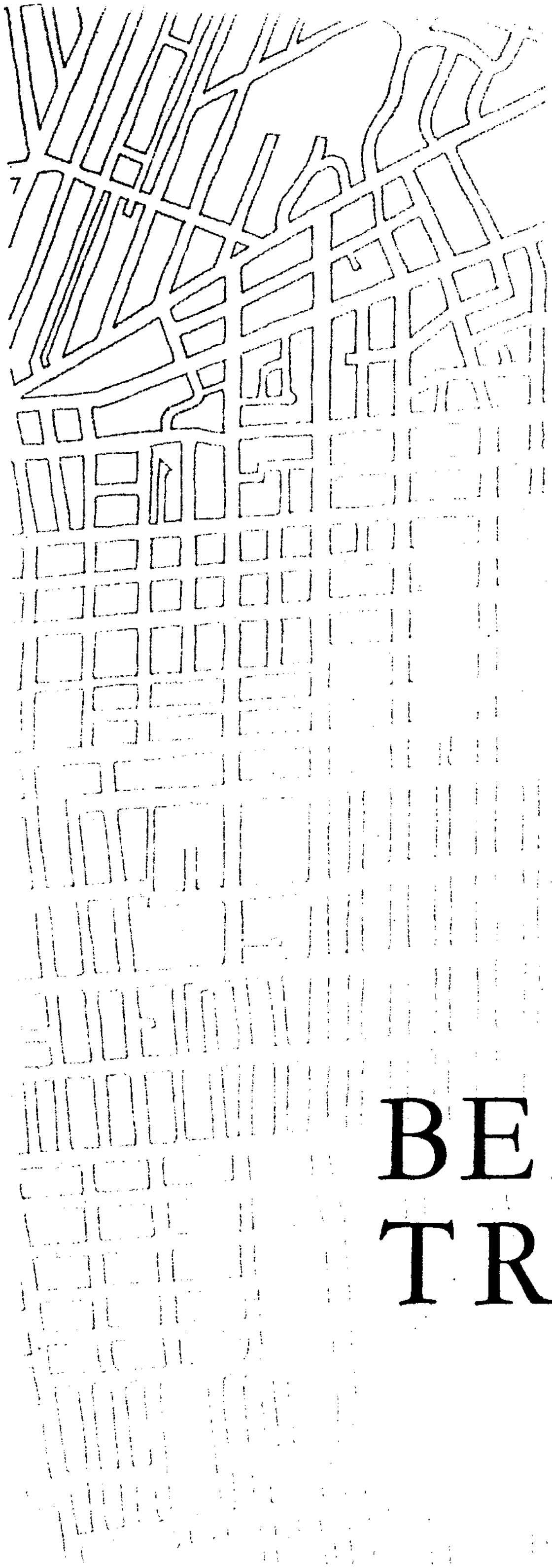

Prepared for

CITY OF BERKELEY, CALIFORNIA

February, 1965

BERKELEY TRAFFICWAYS

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Wilbur Smith and Associates

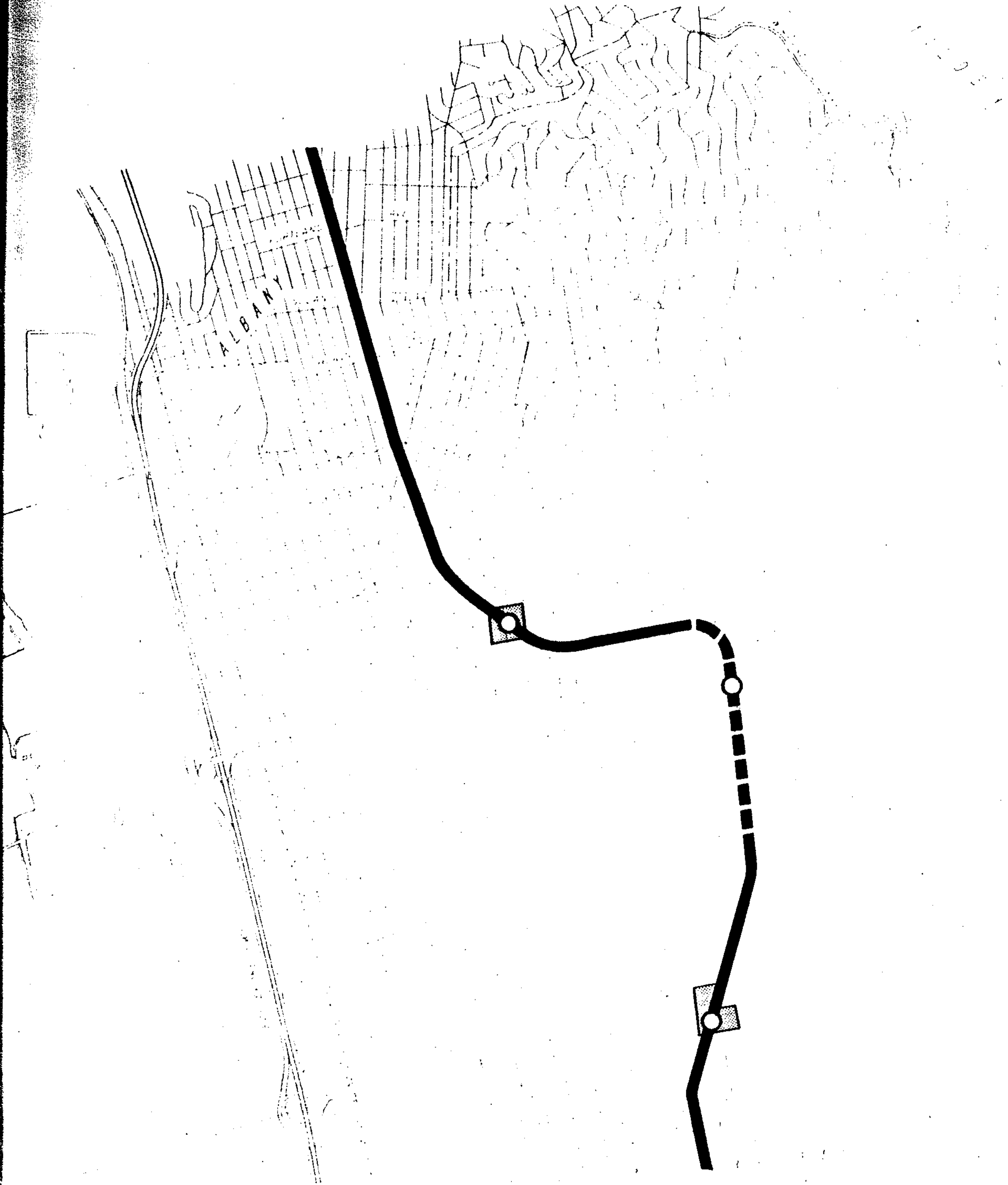
IV PUBLIC TRANSIT PLAN

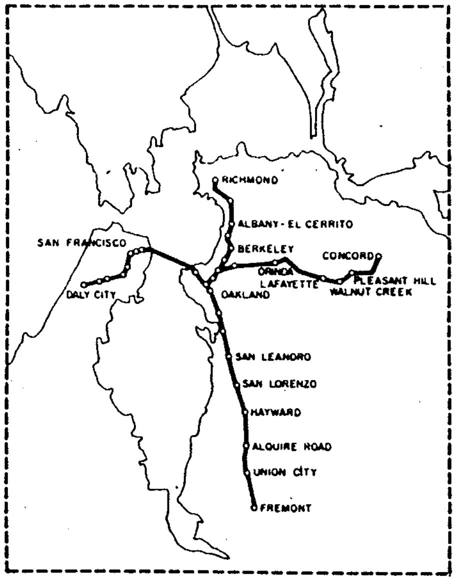
The dense urban development of Berkeley, major traffic generators such as the University of California campus, and the economic interaction between Berkeley and other nearby major centers such as Oakland and San Francisco are factors which make the utilization of public transit an important part of the total transportation system of the city. As indicated earlier, Berkeley is now well served by the buses of the Alameda-Contra Costa Transit District; planned developments will further increase the degree of transit service. In this chapter the proposed public transit changes are briefly discussed and their impact on the total transportation system examined.

Future Rapid Transit

The development of the Bay Area Rapid Transit system, connecting San Francisco, Oakland, Berkeley, Richmond, Concord, Hayward and Fremont with a high-speed rail network is undoubtedly one of the most ambitious undertakings in recent urban history. Construction of this billion dollar system began in June, 1964. By 1967 service on the Richmond-Hayward segment is expected to be in operation, and by 1968 or '69 the Trans-Bay connection between Oakland and San Francisco will be included. By the end of 1972 the system should be complete. Figure 13 illustrates the Rapid Transit System routes.

Plans for the development call for the use of modern high-speed, automated trains, running on exclusive rights-of-way. Cars are being designed specifically for this system, utilizing a wider than normal track gauge for greater stability and comfort. Although scheduling of the trains is, of course, still only general in nature, the announced plans of the district indicate that headways of from 2 to 3 minutes during peak hours and approximately 15 minutes during off-peak periods may be expected. Train design and scheduling are being based on a design average speed of from 45-50 miles per hour which will be attained with equipment capable of accelerating to speeds of up to 70 to 80 miles per





13

RAPID TRANSIT ROUTE

LEGEND

▬ -----SURFACE OR ELEVATED
▬ ▬ -----------------SUBWAY
○ ----------------STATION
▨ -----------PARKING AREA

NORTH

0 1 2 3 4 5 6

MAP SCALE IN THOUSANDS OF FEET

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hour or more between stations.

Within Berkeley the transit facility will take one of two forms; depending upon the type of area through which it passes, it will be either elevated, or below grade in a covered (subway) tunnel. While a number of details remain to be worked out, present plans probably represent a good general picture of the rapid transit facility. The rail lines will enter the city from the south on aerial structures in the median of a widened Grove Street. At Alcatraz Avenue the lines will merge with Adeline Street, where they will continue elevated within the street right-of-way. At Ashby Avenue, where the first major station within Berkeley is proposed, the passenger loading area will be reached by stairs connecting with a pedestrian mezzanine spanning Adeline St.. In addition to two parking lots designed to serve the station with a combined capacity of approximately 850 cars, exclusive surface bus lanes at the station site are presently proposed to facilitate operation of the bus feeder system.

Just north of the intersection with Shattuck Avenue, a transition from aerial to underground design is planned. Allowing approximately 900 feet for this transition, the tracks will be in a subway at a point just south of Dwight Way. A second station (now called the "Berkeley" station) will be located at Allston Way, two blocks south of University Avenue. Passengers will proceed to their trains at this point by way of a pedestrian mezzanine constructed below the surface of existing West Shattuck Avenue and over the transit tracks. No area has been planned for the parking or storage of private passenger vehicles at this station.

North of University Avenue, the line swings to the west to run north of and parallel to Hearst Street. Between Milvia Street and Grove the tracks will emerge from the subway section and will again be elevated. Plans have been prepared indicating the possibility of widening this part of Hearst on the north side to provide two 32-foot roadways with the transit structure located within a 12-foot median. Between California Street and Sacramento Street the line would again swing to the northwest to follow the A.T. & S.F. R.R. right-of-way to Richmond. The third and remaining Berkeley station is planned at Sacramento and Delaware Streets. As with the Ashby Avenue station, parking lots would be developed as an integral part of this station; 1,100 spaces are indicated.

Functional Design of Roadways

In Figures 14, 15, and 16, plans for the functional design of the roadways adjacent to the three rapid transit stations are shown. It should be noted that the designs shown are not necessarily the only possible solutions to the problem of providing adequate traffic capacity and storage of buses and parked cars. They do, however, indicate feasible solutions which have been reviewed by both the Transit District's engineers and by the staff of the City of Berkeley.

Ashby Station -- Figure 14 illustrates the streets adjacent to the Ashby Avenue station complex. Ashby Avenue itself is to be widened to six lanes with a non-traversible median divider.[1] To facilitate right-turning vehicles from Ashby (eastbound) to Adeline, a separate turning lane is provided. Adeline is also a six-lane street with additional widening for curb bus stops near the station entrances. All "kiss and ride" (term employed where the wife drives the family car to and from the transit station to deliver or pick up her husband) stopping and pick-up parking is to be handled in designated areas in the BARTD parking areas. This should obviate the need for curb parking facilities for rapid transit patrons. A small number of curb parking spaces will be available along the east side of Adeline to serve the businesses located there. Access to the BARTD parking area between Adeline and Tremont is limited to Adeline and Woolsey Streets; access from Adeline is located near the northerly end of the facility. Grove is to be widened to provide more capacity. A dual roadway section has been recommended having two moving and one parking lanes (southbound) and

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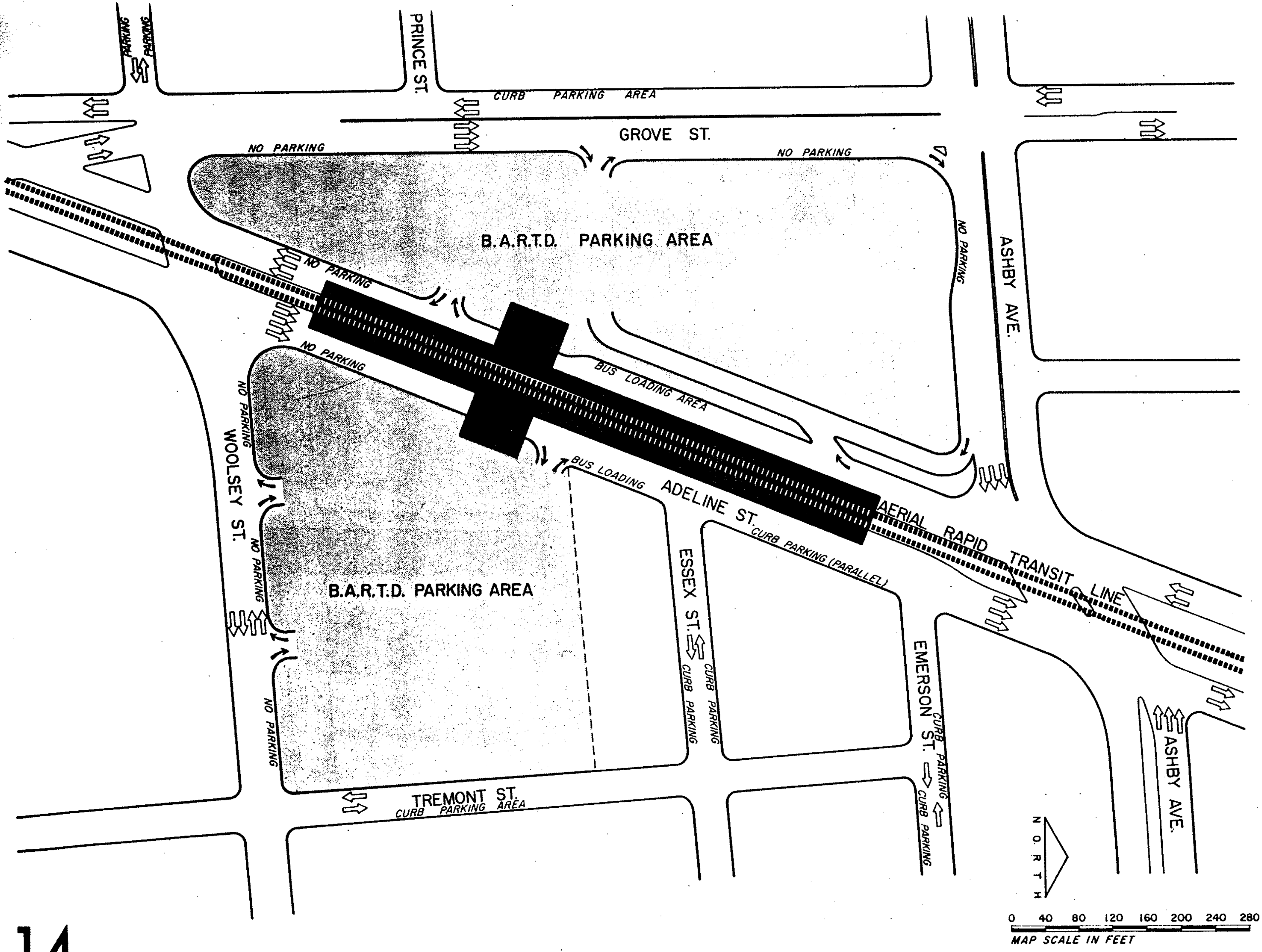
[1] The widening of Ashby Ave. and Grove St. is discussed in more detail in the following chapter.



14

FUNCTIONAL DESIGN ASHBY AVE. STATION

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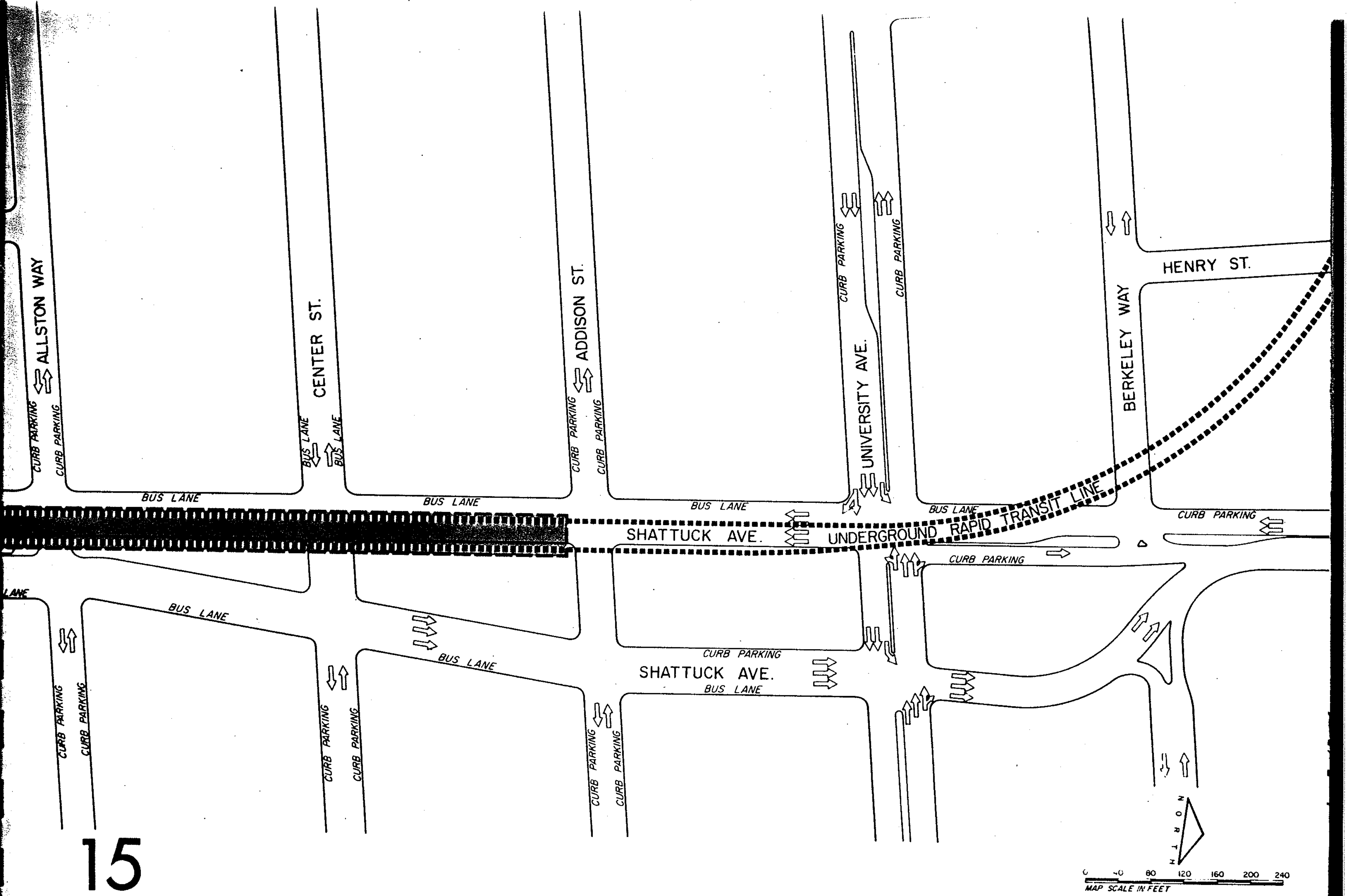

15

FUNCTIONAL DESIGN - BERKELEY STATION

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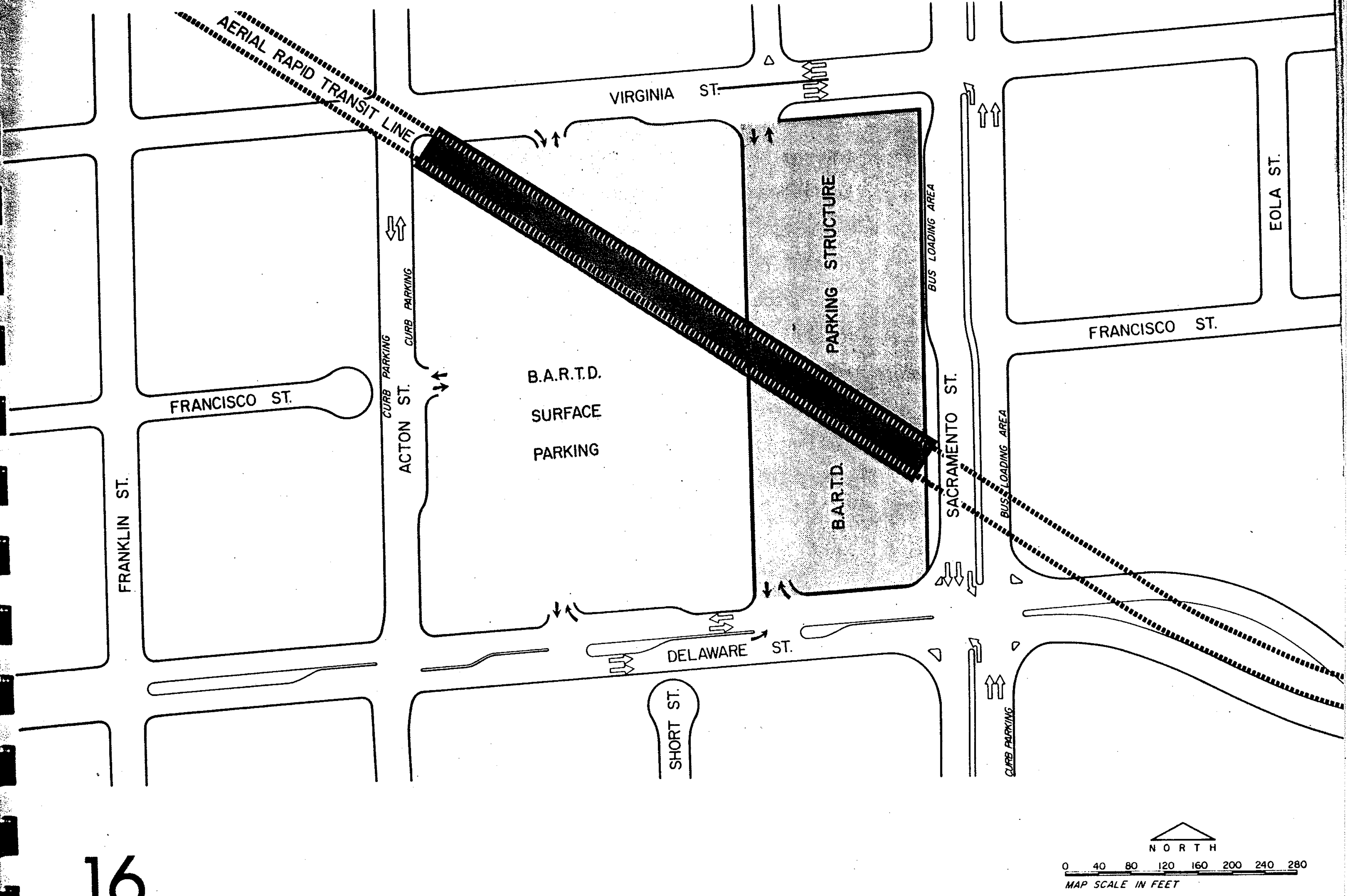

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FUNCTIONAL DESIGN - SACRAMENTO ST. STATION

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three moving lanes on the northbound side, separated by a three-foot median which would prevent mid-block turning conflicts. A separate right-turning lane is provided from Grove to Ashby Ave..

Berkeley Station -- Because the downtown station has no special parking or auto passenger pick-up or deposit areas delineated, all activity of this nature must be accommodated within the streets themselves. For this reason the streets of the CBD will be called upon to meet the demands for the normal through and local traffic, bus operation, parking, and auto and taxi usage associated with the rapid transit station. They must, of course, also provide adequate cross-walk capacity for the heavy pedestrian movements which will be generated both by the transit station and the businesses and offices in the area. In a number of areas these demands are incompatible and so some uses must be given priority over others.

In Figure 15 a functional plan for the downtown station area is illustrated. Each of the Shattuck Avenue roadways is shown as a 44-foot section. This will allow for three moving lanes plus a bus loading/parking lane. During off-peak hours it may be possible, in some few locations, to tolerate parking on both sides of the street.

Until the number, location and types of entrances to the station are finally determined, further detailing of the paving for Shattuck Avenue would be pointless. These questions are being discussed now by the City and the Transit District; upon the determination of these points more precise planning of the street can be accomplished.

The planned widening of University Avenue and the proposed extension of "East" Shattuck northward[2] should eliminate many of the problems now found at this intersection. Additional widening should be provided on Allston Way to bring this street up to standard. A 40-foot section will still allow adequate sidewalk area for pedestrian movements.

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[2] See Chapter V for a full discussion of these improvements.

Special attention should be given to the delineation of loading zones at the curbs in these areas to ensure that truck parking is adequate to meet the demand. No alleys are present to accommodate these functions and curbs will be very busy during both the morning and evening peak hours; therefore, it may be desirable to restrict loading operations to off-peak periods.

Sacramento Station -- As the parking demands at this station will require more area than is available on the surface of the site, a partial deck for parking has been planned for this site. The upper level of parking, occupying the eastern third of the site, would be reserved for short-term parking and for "kiss & ride" parking. Access to the parking areas from Sacramento Street would not be provided; all entrances and exits would be located on Delaware, Virginia, and Acton Streets. To eliminate conflicting mid-block movements near station entrances, Short and Francisco Streets would be closed by cul-de-sac treatment.

It is recommended that Acton Street be widened to a 40-foot cross-section with a storage lane for right-turning vehicles at the parking lot entrance. Virginia should be widened from the present 38-foot section to 48 feet, again with storage lanes as indicated. Delaware should be widened to give divided two-lane roadways with a left-turn bay to allow east-bound vehicles to enter the short-term parking area. No major changes to Sacramento Street will be necessary.

As shown in the drawing, access to the station by bus will be quite convenient. Southbound buses on Sacramento would load and unload passengers at the curb on Sacramento near Delaware; northbound buses could utilize the drive along the western edge of the parking deck to bring passengers into the station area itself, to eliminate the need for transit patrons to cross the street on foot.

Surface Transit

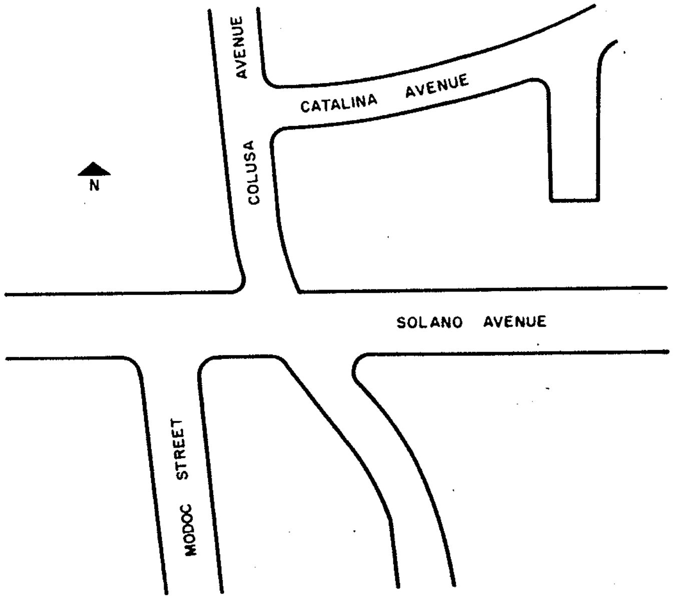
The construction of the Bay Area Rapid Transit system will have a marked effect on the opera-

Shattuck Avenue -- The proposed extension of East Shattuck Avenue from University Avenue to 'North' Shattuck Avenue at Berkeley Way was considered in this analysis. The extension of East Shattuck Avenue (see Figure 15) northward to provide a continuous north-bound movement across University Avenue is a much needed improvement which will have an extremely beneficial effect on peak-hour traffic conditions throughout the central business district. At present, northbound Shattuck Avenue traffic is commonly found to back up for two to three blocks south of University Avenue as a result of the peak-hour congestion at this intersection. Although the cost of this project, estimated by the City staff at $270,000, is substantial, the potential benefits far outweigh this disadvantage.

In addition to this much needed improvement, other work will also be necessary to bring Shattuck Avenue up to the development level needed when the opening of the Berkeley Station of the BARTD further increases the demands upon this important street. Estimates of 1980 traffic volumes on Shattuck range from 18,000 to 22,000 vehicles per day in the critical section between Hearst and Durant. While these volumes are not greatly higher than now found, the peak-hour percentage is expected to be altered considerably. Assignments of transit-oriented traffic (P.M. peak-hour, peak design day, 1975) to the streets surrounding the Berkeley Station indicate that northbound traffic south of University will probably increase from the 1964 volume of 760 vehicles per hour to approximately 1,050 vehicles per hour. With an assumed 50 percent green time, three full travel lanes will be required in addition to the necessary bus landing zones. A minimum cross-section of 44 feet appears to be necessary to support this volume. During off-peak periods parallel parking on either or both sides of the street may be permitted. From a traffic service standpoint it would be desirable to eliminate the diagonal parking from all of the major streets in Berkeley. Because of the particularly critical role of Shattuck Avenue in the area near the rapid transit station, the elimination of diagonal parking is mandatory here.

Colusa Avenue -- The realignment of Colusa Avenue at Solano Avenue was studied as part of the improvement of this street. The existing intersection of Colusa at Solano does not allow for a continuous north-south movement. The center line of Colusa north of Solano is off-set approximately 170 feet west of that south of Solano. This discontinuity necessitates a great number of turning movements and creates unnecessary hazards to both motorists and pedestrians. During the first four months of 1964, four collisions occurred at this intersection. The recommended extension of Sacramento into Monterey will increase the attractiveness of Monterey-Colusa as a north-south route and will intensify the existing problem at Solano.

A realignment of Colusa has been proposed as shown in the sketch below. Only four properties are involved; right-of-way for this project is estimated to cost $171,100. The realignment of Colusa to form a continuous roadway is estimated to cost an additional $29,000. A traffic control signal at Colusa and Solano is included in this estimate.



Oxford-Spruce -- Study was made to provide an adequate trafficway to connect Oxford Street at Virginia with Spruce Street at Rose Street. The Fulton-Oxford-Spruce route is an important north-south facility which is complicated by the barrier of the U. C. campus, the topography of the Berkeley Hills, and the existing street network. North of Hearst Avenue